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## **(54) LIGHT DIRECTION CONVERTER AND PHOTOELECTRIC SWITCH USING IT**

### **(57)Abstract:**

**PURPOSE:** To provide a light direction converter which can bend in the advancing direction the light while achieving a desired convergence light, and securing a sufficient quantity of light.

**CONSTITUTION:** A prism lens 10 is provided with a first incidence/emission surface 11 for applying light to the inside or emitting light to the outside, a second incidence/emission surface 12 for emitting light to the outside or applying light to the inside, and a reflection surface 13. A first convex lens 14 is formed in one piece on the first incidence/emission surface 11 and a second convex lens 15 is formed in one piece on the second incidence/emission surface 12. Diffusion light emitted from the tip of an optical fiber 40 is converged into parallel light or diffusion light closer to it by the first convex lens 14 and is bent nearly at right angle by the reflection surface 13. The reflection light is further converged by the

second convex lens 15.

